

## **REMARKS**

Claims 1, 8, 9, 11, 14 and 22 have been amended and new claims 24-35 have been added. Claims 1-3, 5, 6 and 8-35 are pending in the application. Entry of the amendments contained herein and reconsideration of the application are requested in view of the amendments and the remarks to follow.

Applicant notes that the Office Action Summary indicates that claims 1-23 were pending. In order to ensure continuity and lack of confusion in the record, Applicant notes that claims 4 and 7 were previously canceled and that claims 22 and 23 were added (Office Action Response dated June 16, 2003), leaving claims 1-3, 5, 6 and 8-23 pending in the application prior to this Response.

The amendments to the specification correct minor informalities noted during review and/or bring the drawings and specification into mutual conformance. No new matter is added by these amendments to the specification.

The amendments to Figs. 1-4 are intended to ensure that the drawings fully comport with applicable rules and regulations. No new matter is added by these amendments.

The amendments to claims 1, 11, 14 and 22 are responsive to the concerns noted in the Office Action (p. 2, item 1) and/or address minor informalities noted during review. No new matter is added by these amendments, and the amendments directed to address minor informalities are not intended to alter the scope of the claims.

Claims 8 and 9 have been amended to place them into independent form and/or to address concerns noted in the Office Action (p. 2) regarding formalities. The amendments to the specification, drawing and claims, and

new claims 24-35, are supported at least by page 3, line 22 through page 12, line 20 of the specification as filed. New claims 24-35 are similar to claim 1 et seq. but differ in scope. No new matter is added by these amendments or new claims. New claims 24-35 distinguish over the art of record and are allowable.

## **Rejections under 35 U.S.C. §102**

Claims 1-3, 5, 6, and 12-18 stand rejected under 35 U.S.C. §102(e) as being anticipated by Wefers et al. (hereinafter "Wefers"), U.S. Patent No. 6,458,211. Claims 11 and 22 stand rejected under 35 U.S.C. §102(b) as being anticipated by Matsunaga (hereinafter "Matsunaga"), U.S. Patent No. 5,389,148. Applicant disagrees and requests reconsideration in view of the remarks to follow.

Anticipation is a legal term of art. Applicant notes that in order to provide a valid finding of anticipation, several conditions must be met: (i) the reference must include every element of the claim within the four corners of the reference (see MPEP §2121); (ii) the elements must be set forth as they are recited in the claim (see MPEP §2131); (iii) the teachings of the reference cannot be modified (see MPEP §706.02, stating that "No question of obviousness is present" in conjunction with anticipation); and (iv) the reference must enable the invention as recited in the claim (see MPEP §2121.01). Additionally, (v) these conditions must be simultaneously satisfied.

Wefers is directed (Title) to a "device and method for applying a medium to a substrate, system having a plurality of such devices, and use of such device, method and system". More specifically, Wefers teaches (Abstract) that:

The invention relates to a device and to a method for applying a medium in the form of liquid, powder or paste to a substrate, having a container for the medium and a transport device which takes the medium from the container and discretely distributes it. In a propelling device the medium is selectively transferred from the transport device to the substrate with a propellant which is separate from the medium, or in the propelling device the medium is selectively removed from the transport device, and the remaining medium is transferred from the transport device to the substrate.

In contrast to Wefers, claim 1 recites "A device for printing onto a medium, said device comprising: a mesh-like substrate having multiple holes; each of said holes being configured to hold a material for application onto said medium, wherein said material is a solid; a nozzle to expel a fluid to cause said material to be applied onto said medium if said fluid is expelled onto said material by said nozzle, wherein at least one of said nozzle and said substrate is maneuverable such that said nozzle may be disposed substantially directly over at least one of said holes at a time; and wherein said nozzle is operable to expel said fluid onto said material to thereby cause said material to be applied onto said medium and thereby print an image on said medium", which is not taught or disclosed by Wefers.

Dependent claim 5 recites that the device of claim 1 further comprises "a scraper for removing excess material from said mesh-like substrate". A scraper is an instrument suitable for removing a paste, a powder, a solid or a liquid.

In further contrast to the teachings of Wefers, claim 12 recites "A method for printing onto a medium, said method comprising: applying a material onto a mesh-like substrate having a hole, wherein said material is a solid; filling a portion of said hole with said material; and expelling a fluid from a nozzle at a substantially high rate of speed toward said material held within said hole, wherein said fluid is configured to contact said material and cause said material to be substantially forced out of said hole and applied onto said medium", which is not taught or disclosed by Wefers.

Dependent claim 13 recites that the method according to claim 12 further comprises "removing excess material from said hole with a scraper".

Wefers, however, explicitly teaches use of a squeegee, using this term at least 19 times in Wefers' disclosure. Wefers identifies element(s) 7, 7' of Figs.

1-3 and 57 of Figs. 11 and 12 as a "squeegee" or "roller squeegee" in more than 15 separate instances in the disclosure, *and provides no alternative examples of devices for this function.*

While a squeegee may fall within the ambit of the term "scraper", the converse is not true. In other words, all blade squeegees are forms of scrapers but many scrapers are not squeegees; as noted above, a squeegee is not suited to removal of a solid applied to a mesh-like substrate, as recited in claims 1 and 12.

In particular, a scraper (as recited in claim 5) suited for removal of: a solid applied to a mesh-like substrate (as recited in claim 1) is not a squeegee, and to equate the squeegee taught by Wefers for the subject matter recited in Applicant's claims gives the term "squeegee" a meaning repugnant to the ordinary meaning of the term. Similarly, removing excess material with a scraper (as recited in claim 13) suited for removal of a solid applied to hole in a mesh-like like substrate (as recited in claim 12), is not equivalent to use of a squeegee for removal of a liquid, as taught by Wefers.

It is improper to give a term a meaning repugnant to the ordinary meaning of the term. This is explained below in more detail with reference to MPEP §2111.01, entitled "Plain Meaning".

This MPEP section states that "**THE WORDS OF A CLAIM MUST BE GIVEN THEIR "PLAIN MEANING" UNLESS THEY ARE DEFINED IN THE SPECIFICATION**". This MPEP section further states that "While the meaning of claims of issued patents are interpreted in light of the specification, prosecution history, prior art and other claims, this is not the mode of claim interpretation to be applied during examination. During examination, the claims must be interpreted as broadly as their terms reasonably allow. This

means that the words of the claim must be given their plain meaning unless applicant has provided a clear definition in the specification. *In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989)". The interpretation of Applicant's claim 1 relied on by the Examiner clearly gives the term "squeegee", as used in Wefers, a meaning repugnant to the ordinary meaning of the term.

The term "squeegee" is defined in Merriam-Webster's Seventh Collegiate Dictionary (G. & C. Merriam Co., Springfield, Massachusetts, copyright 1971) at page 850 as meaning: "*n* [prob. imit.] : a blade of leather or rubber set on a handle and used for spreading, pushing, or wiping liquid material on, across, or off of a surface (as a window); *also* : a smaller similar device or a small rubber roller with a handle used by a photographer or lithographer" or "*vt* : to smooth, wipe or treat with a squeegee" (emphasis added).

In contrast, the same dictionary, at page 774, defines "scrape" as meaning "*vb* {ME *scrapen*, fr. ON *skrapa*; akin to OE *scrappian* to scrape, L *scrobis* ditch, Gk *Kieren* to cut] - more at SHEAR] *vt* **1** **a** : to remove (excrecent matter) from a surface usu. by repeated strokes of an edged instrument **b** : to make a surface smooth or clean with strokes of an edged instrument or an abrasive ....", with "scraper" being defined in terms of the definition of "scrape".

Additionally, because a squeegee is not suited to removal of a solid, where the solid is applied to holes in a mesh, as recited in claims 1 and 12, the teachings of Wefers do not provide an enabling disclosure of the subject matter of claims 1 and 12 and claims dependent therefrom. Mere mention in passing of an exemplary powder (as in Wefers - see Abstract; Field of the Invention &

Summary) without any description of appropriate hardware to support use of such, does not provide a disclosure of such that is enabling in the sense of 35 U.S.C. 112 or as is necessary for a proper finding of anticipation (see item (iv), *supra*). In fact, the Description of Preferred Embodiments of Wefers is void of any mention whatsoever of any powder and the entirety of Wefers is void of the term "solid".

Further, because Wefers fails to set forth an enabling description of the subject matter of claims 1 and 12, the teachings of Wefers must be impermissibly modified to attempt to arrive at the subject matter of these claims (see item (iii), *supra*, and MPEP §706.02). Additionally, because Wefers fails to set forth the elements as they are recited in the claims (see item (ii), *supra*, and MPEP §2131), the anticipation rejection fails another element needed in order to provide a valid finding of anticipation. Moreover, because Wefers does not teach or describe the subject matter of claims 5 and 13, with respect to at least these claims, the anticipation rejection also fails to include every element of the claim within the four corners of the reference, as is required for a valid finding of anticipation (see item (i), *supra*, and MPEP §2121).

Finally, because the anticipation rejection fails numerous critical aspects of the criteria set forth in the MPEP and case law for a valid finding of anticipation, the rejection cannot possibly meet these aspects simultaneously (see item (v), *supra*). As such, the anticipation rejection of claims 1-3, 5, 6 and 12-18 is defective and should be withdrawn, and claims 1-3, 5, 6 and 12-18 should be allowed.

Matsunaga is directed (Title) to a "spray apparatus utilizing porous sheet". More specifically, Matsunaga teaches (Abstract):

A spray method and apparatus for uniformly coating a surface with a high degree of efficiency includes filling the pores of a porous sheet with a liquid and then directing compressed fluid from a nozzle into the sheet from one side to spray the liquid onto a surface spaced from an opposite side. Because the total volume of the pores is known, the volume of the sprayed liquid is also known. Moving the nozzle relative to the sheet and the substrate enables the entire surface to be uniformly coated. The size and distribution of the pores on the sheet define the distribution of the liquid sprayed onto the substrate. The coating may be a thick or a thin film of uniform thickness, or may even comprise a recognizable pattern.

More specifically, Matsunaga is concerned with improving uniformity of deposition of material on a substrate (see, e.g., Field of the Invention), stating (col. 1, lines 28-43) that:

It is an objective of this invention to improve the uniformity in thickness of a liquid coating applied to a surface.

It is another objective of the invention to more efficiently spray coat a surface by reducing dispersion.

The above-stated objectives are achieved by filling the pores of a porous sheet with a liquid and then pushing the liquid out of the pores by pressure to transfer the liquid onto the surface to be coated. Preferably, the liquid is pushed out of the pores by spraying a compressed fluid.

By wiping the excess liquid from the sheet prior to transfer, only a volume of liquid equal to the volume of the pores will remain. If the volume of the pores is known, the volume of the liquid transferred to the surface will be known with a high degree of accuracy.

Implicit in these objectives is that the volume of the pores must be constant from one pore to another or must vary in some known and predetermine way. Matsunaga further teaches (col. 3, lines 19-24; Fig. 1C) that both sides of the porous sheet must be wiped in order to guarantee known volumes of liquid in the pores, stating that:

FIG. 1C depicts the sheet 10 after opposing sides have been wiped, or scraped, of excess liquid 14. This wiping step leaves the liquid 14 only within the pores 12 of the sheet 10. Therefore, if the total volume of the pores 12 is known, the total volume of liquid 14 held by the sheet 10 is also known.

Applicant, in contrast, has developed a process whereby the nozzle may be chemically incompatible with the material, stating (p. 4, lines 3-5) that implicit in this is the lack of contact between the material and the nozzle. In other words, Matsunaga is directed to a different set of problems than are contemplated by Applicant, and, as such, Matsunaga cannot possibly describe the subject matter of claim 22 or enable such.

For at least these reasons, the anticipation rejection of claim 22 is in error and should be withdrawn, and claim 22 should be allowed. Claim 11 distinguishes by virtue of dependence from an allowable claim and for its own recitation which is neither taught nor disclosed by the cited references.

### **Rejections under 35 U.S.C. §103**

Claims 8 and 9 stand rejected under 35 U.S.C. §103 as being unpatentable over Wefers in view of Matsunaga. Claims 19-21 stand rejected under 35 U.S.C. §103 as being unpatentable over Wefers in view of U.S. Patent No. 5,964,158 to Takahashi. Claim 23 stands rejected under 35 U.S.C. §103 as being unpatentable over Matsunaga in view of U.S. Patent No. 4,205,320 to Fujii (hereinafter "Fujii"). Applicant disagrees and requests reconsideration.

Wefers, as noted above with respect to the anticipation rejections, is directed to a printer-type device suitable for printing liquid materials onto a substrate. Matsunaga is also directed to a printer-type device, but critically relies on printing liquid materials onto a substrate. In fact, Matsunaga is void of the terms "solid" or "powder".

In contrast to the disclosure of the references, Applicant's claim 8 recites "A device for printing onto a medium, the device comprising: a mesh-like substrate having multiple holes; each of the holes being configured to hold a material for application onto the medium, wherein the material is a solid; a nozzle to expel a fluid to cause the material to be applied onto the medium when the fluid is expelled onto the material by the nozzle, wherein at least one of the nozzle and the substrate is maneuverable such that the nozzle may be disposed substantially directly over at least one of the holes at a time; and wherein the nozzle is operable to expel the fluid onto the material to thereby cause the material to be applied onto the medium and thereby print an image on the medium, wherein said at least one hole comprises a generally conical configuration", which is not taught, disclosed, suggested or motivated by the cited references, alone or in any proper combination.

Additionally, Applicant's claim 9 recites "A device for printing onto a medium, the device comprising: a mesh-like substrate having multiple holes; each of the holes being configured to hold a material for application onto the medium, wherein the material is a solid; a nozzle to expel a fluid to cause the material to be applied onto the medium when the fluid is expelled onto the material by the nozzle, wherein at least one of the nozzle and the substrate is maneuverable such that the nozzle may be disposed substantially directly over at least one of the holes at a time; and wherein the nozzle is operable to expel the fluid onto the material to thereby cause the material to be applied onto the medium and thereby print an image on the medium, further comprising a power source connected to said mesh-like substrate to supply electricity to said mesh-like substrate, whereby said material may be held within said hole by a charged attraction between said mesh-like substrate and said material", which is not taught, disclosed, suggested or motivated by the cited references, alone or in any proper combination.

Because Matsunaga teaches (see rejection under 35 U.S.C. §102) need to carefully control volume of material contained in each pore and thus teaches use of a liquid material, elaborate scraping and the like, attempting to combine the teachings of Wefers and Matsunaga to arrive at the subject matter of claim 8 or claim 9, each reciting a solid material, defeats the main intent of Matsunaga. It is improper to modify the teachings of a reference in a fashion that renders the teachings of the reference unsuitable for their intended purpose, as is explained below in more detail with reference to MPEP §2143.01.

In a subsection entitled "THE PROPOSED MODIFICATION CANNOT RENDER THE PRIOR ART UNSATISFACTORY FOR ITS INTENDED PURPOSE", this MPEP portion states that "If proposed

modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984) ...." Because combining the teachings of Matsunaga with the teachings of Wefers to try to arrive at the subject matter of claim 8 or claim 9 defeats the intended purpose taught by Matsunaga, it is improper to combine the teachings of these references in an attempt to find unpatentability.

For at least these reasons, the rejection of claims 8 and 9 is *prima facie* defective and should be withdrawn, and claims 8 and 9 should be allowed.

Fujii is directed to (Title) a "wet type direct image recording method". More particularly, Fujii describes (Abstract): "A wet type direct image recording method an apparatus wherein an ink/image is formed directly on a surface treated recording material by passing the recording material between an image signal voltage applying electrode and an ink supplier device. The surface of the ink supplier device has depressions in its surface layer, which permit capillarity of the ink, thereby the ink is held in the surface layer of the ink supplier device, and at least either of the ink and the surface layer of the ink supplier device is electrically conductive so that the ink or the ink supplier device serves as a counter electrode for the image signal voltage applying electrode. The ink in the depressions is easily attracted electrostatically to the surface of the recording material when an electric field is formed between the image signal voltage applying electrode and the ink or the ink supplier device since the surface tension of the ink is reduced significantly by the electric field."

In contrast, claim 10 recites "The device according to claim 9, wherein said supplied electricity is capable of magnetically charging said mesh-like

substrate, wherein said material is held within said hole by a magnetically charged attraction between said substrate and said material", while claim 23 recites "The device according to claim 22, wherein said supplied electricity is capable of magnetically charging said mesh-like substrate, wherein said material is held within said hole by a magnetically charged attraction between said substrate and said material", which recitations are not taught, disclosed, suggested or motivated by either or any of Wefers, Matsunaga or Fujii, alone or in any proper combination.

As noted above, combining the teachings of Wefers and Matsunaga defeats the intended purpose taught by Matsunaga and thus such combination is improper. Adding in the recitation of claim 7 of Fujii (col. 6, lines 35-42 is a portion of this claim and includes the ONLY mention of the term "magnetic" in the entirety of Fujii) fails to cure these deficiencies.

Additionally, Fujii is directed to a wet-type recording technique and apparatus wherein (col. 1, lines 6-16):

The present invention relates to a wet type direct recording method for recording an image information directly on a recording material, and more particularly to a wet type direct recording method in which an ink image is formed directly on a plain paper by passing the plain paper between an image signal voltage applying electrode and an ink bearing ink supplier which serves as a counter electrode, and the ink to which an image signal voltage is applied is attracted to the surface of the paper by the surface tension of the ink being reduced selectively.

Fujii teaches (col. 1, line 63 et seq.) that such provides benefits:

Moreover, since this recording method is a wet type recording method, a fixing process is unnecessary and an ink image is directly formed on the recording material by applying an electric field corresponding to an image signal, an intermediate medium for image formation and processes, such as development, image transfer, and cleaning are unnecessary. As a result, the recording apparatus can be made compact and at the same time, the operation reliability of the recording apparatus can be raised significantly. Furthermore, since plain paper can be employed as the recording material for use with this recording apparatus, the

recording cost can be lowered in comparison with the conventional recording process.

Fujii thus teaches away from the types of processes recited in claims 9 and 23, as well as the teachings of Wefers and/or Matsunaga. Applicant notes the requirements of MPEP §2145, in a subsection (X)(D)(2) entitled "References Cannot Be Combined Where Reference Teaches Away from Their Combination".

This MPEP subsection states that: "It is improper to combine references where the references teach away from their combination. *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983)". It is thus improper to attempt to combine the teachings of Fujii with anything to try to arrive at the subject matter of claim 9 or of claim 23. For at least these reasons, the rejection of claims 9 and 23 is improper and should be withdrawn, and claims 9 and 23 should be allowed.

Takahashi is directed to (Title) a "magnetic ink character detection apparatus and controlling method therefore [sic]". More particularly, Takahashi describes (Abstract): "An apparatus and control method therefor which compensates differences among individual media in detected signal amplitudes caused by imperfect magnetic ink character printing conditions without requiring an adjustment of amplitude of a received signal amplifier. Preferably, the magnetic ink character detection apparatus of the present invention includes a moving device that moves the magnetic head and/or the medium relative to each other at a predetermined speed; an amplitude detection unit for detecting the amplitude and/or saturation amount of the electrical signals output from the magnetic head; and a moving-speed determination unit for determining the relative moving speed caused by the moving device in accordance with the output from the amplitude detection unit."

In contrast, claim 19 recites "A computer readable storage medium on which is embedded one or more computer programs, said one or more computer programs implementing a method for printing onto a medium, said one or more computer programs comprising a set of instructions for: applying a material onto a mesh-like substrate having a hole, wherein said material is a solid; filling a portion of said hole with said material; and expelling a fluid from a nozzle at a substantially high rate of speed toward said material held within said hole, wherein said fluid is configured to contact said material and cause said material to be substantially forced out of said hole and applied onto said medium", which is not taught, disclosed, suggested or motivated by the cited references.

As noted above, Wefers is directed to use of wet materials for printing. Takahashi is not directed to printing anything and instead addresses reading of characters previously printed using magnetically-active inks. Applicant notes that the Office Action states (p. 6) that "Takahashi teaches a computer readable storage medium on which is embedded one or more computer programs which implement a method for printing onto a medium" but provides no indication whatsoever as to where such teaching might be found in Takahashi. Inasmuch as Takahashi has nothing to do with any such teaching, it is inconceivable that combining the teachings of these two references could possibly provide the subject matter of claim 19 or claims 20 or 21. Clarification of the rejection vis-à-vis the "teachings" of Takahashi is respectfully requested. As a result, combining the teachings of these references does not and cannot provide the subject matter of claim 19 or claims dependent therefrom. For at least these reasons, the rejection of claims 19-21 is *prima facie* defective and should be withdrawn, and claims 19-21 should be allowed.

Further, with respect to all of the unpatentability rejections, simply providing a conclusory statement that "It would have been obvious ...." fails to meet the standards set forth in the MPEP for establishing a prima facie case of unpatentability. These are set forth in MPEP §2143, entitled "Basic Requirements of a Prima Facie Case of Obviousness" (see also MPEP §706.02(j), §2141 et seq. and §2142).

This MPEP section states that "To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings." The references fail to teach or disclose the elements recited in the claims. Accordingly, the references cannot provide motivation to modify their teachings to arrive at the invention as claimed, and the Examiner has identified no such teaching or disclosure in the references. As a result, the first prong of the test cannot be met.

MPEP §2143 further states that "Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations."

Inasmuch as the references fail to provide all of the features recited in Applicant's claims, the third prong of the test is not met. As a result, there cannot be a reasonable expectation of success. As such, the second prong of the test cannot be met.

MPEP §2143 additionally states that "The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)." This fourth criterion cannot be

met because the references fail to teach or disclose the elements recited in the claim. As such, the unpatentability rejections fail all of the criteria for establishing a *prima facie* case of obviousness as set forth in the MPEP.

Moreover, no evidence has been provided as to why it would be obvious to combine or modify the teachings of these references. Evidence of a suggestion to combine or modify may flow from the prior art references themselves, from the knowledge of one skilled in the art, or from the nature of the problem to be solved. However, this range of sources does not diminish the requirement for actual evidence. Further, the showing must be clear and particular. See *In re Dembicza*k, 175 F.3d 994, 998 (Fed. Cir. 1999).

### CONCLUSION

Claims 1-3, 5, 6 and 8-35 are allowable over the art of record. Should any matter in this case remain unresolved, the undersigned attorney respectfully requests a telephone conference with the Examiner to resolve any such outstanding matter.

Respectfully Submitted,

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